



SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore – 641 107

An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

**COURSE NAME : 19CS503- Cryptography and Network
Security**

III YEAR /V SEMESTER

Unit 1- Introduction

Topic : Security trends . Legal, Ethical and Professional Aspects of Security

Why do we do all the below?



Security



Traditional vs Modern



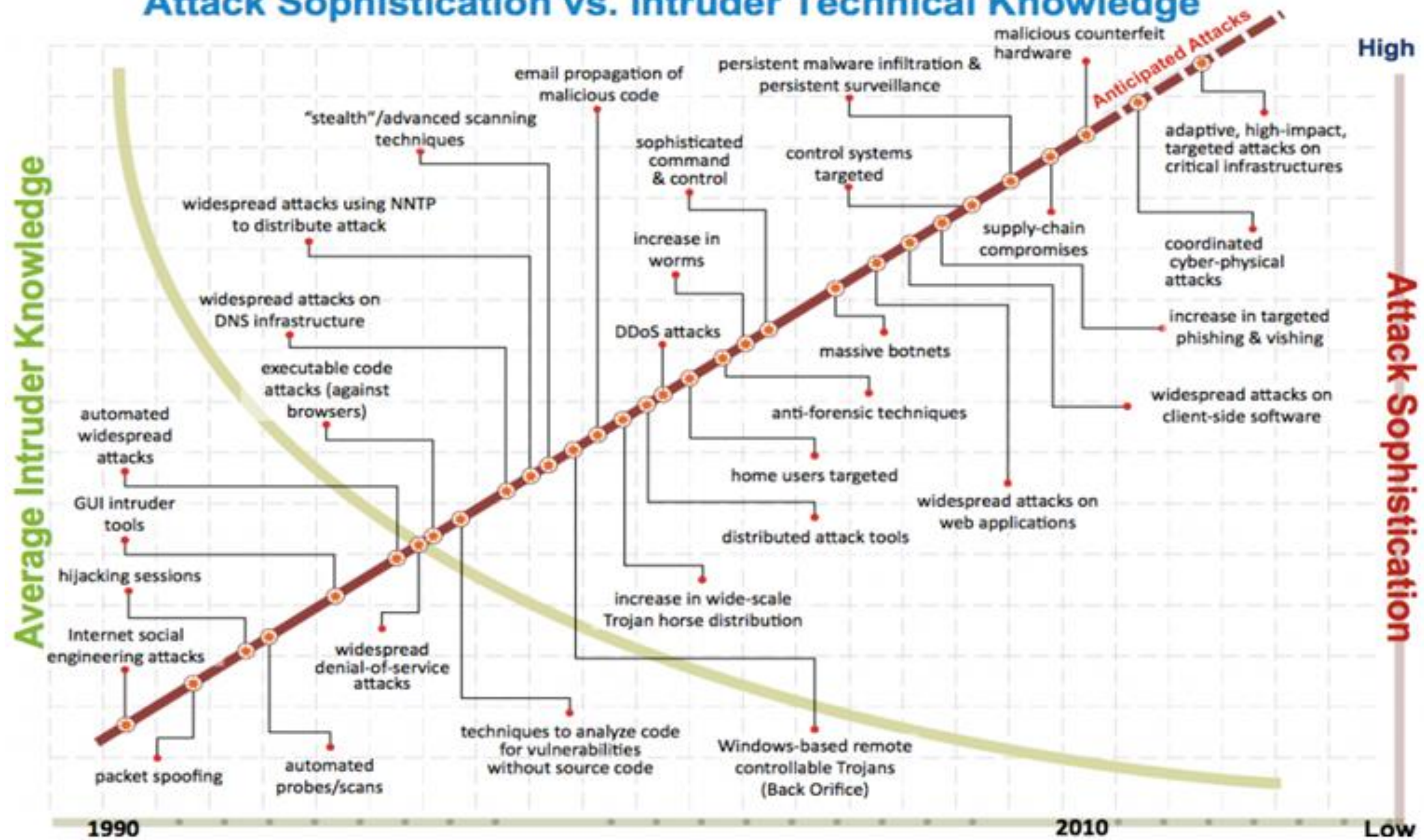
Traditional Information Security

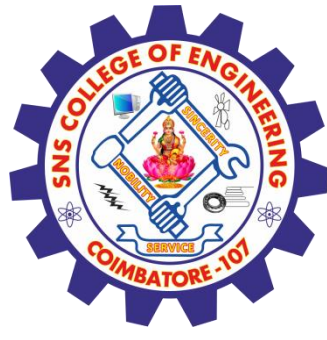
- Locked cabinets
- Secure Locker room
- Human guards
- Electronic surveillance systems

Modern World

- Data are in computers
- Computers are interconnected

Attack Sophistication vs. Intruder Technical Knowledge





Legal and Ethical Aspects

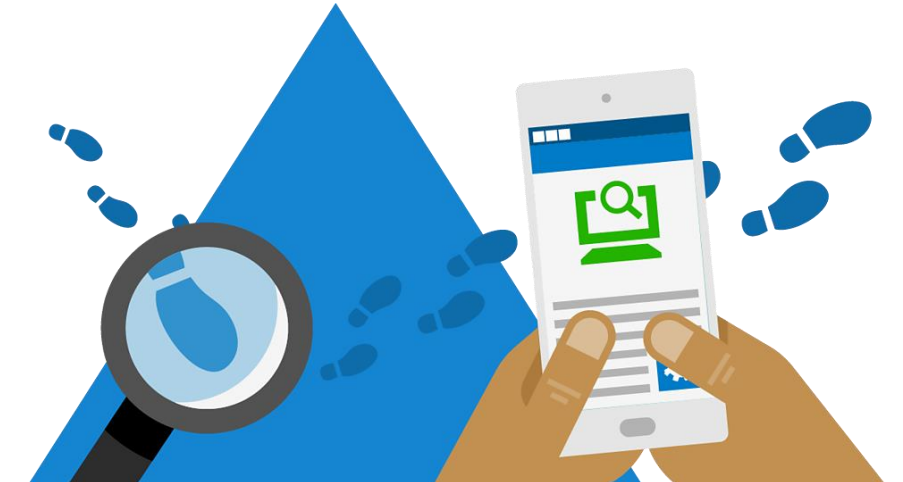
Cybercrime

Intellectual

Property

Privacy

Ethical Issues

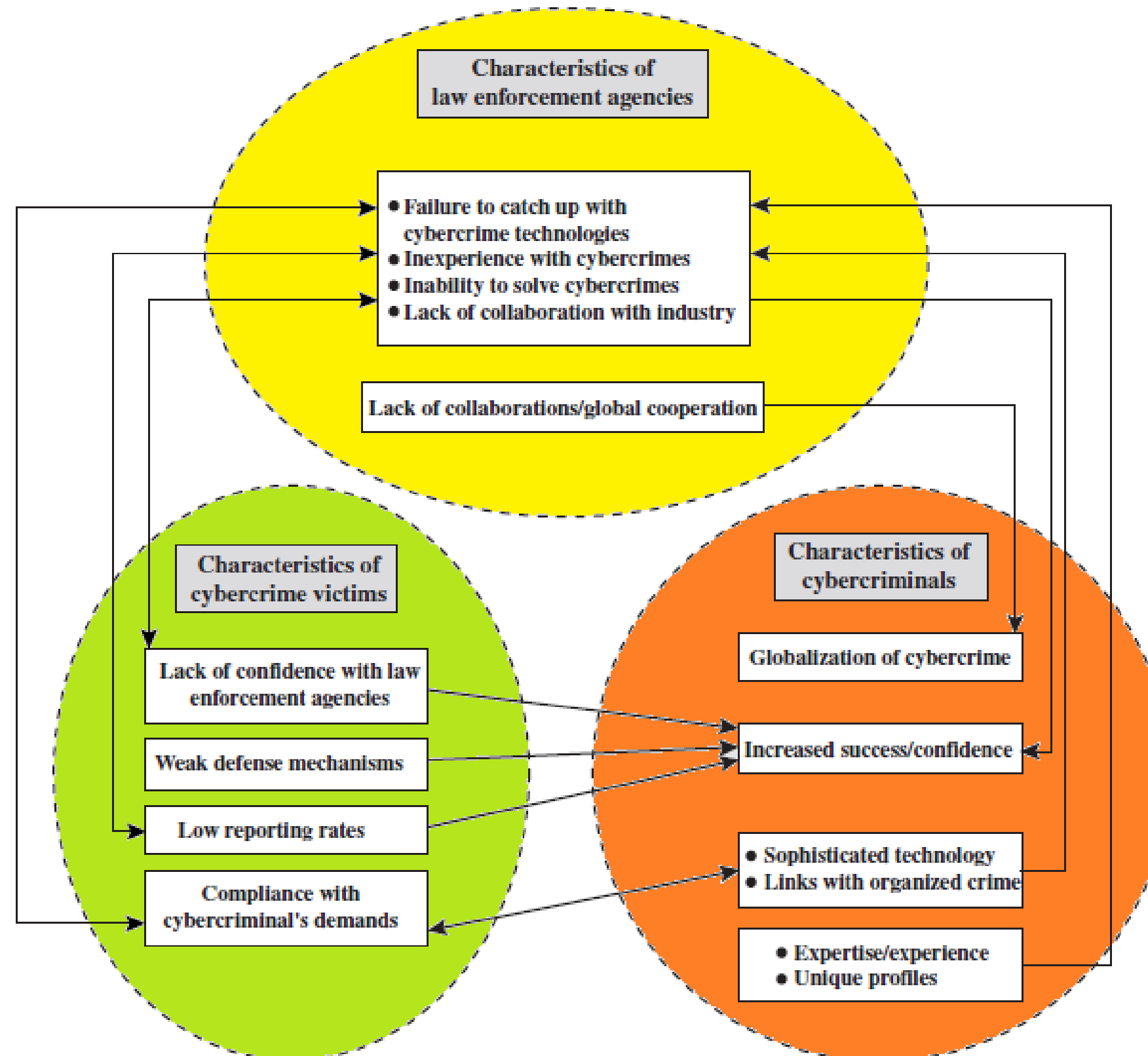


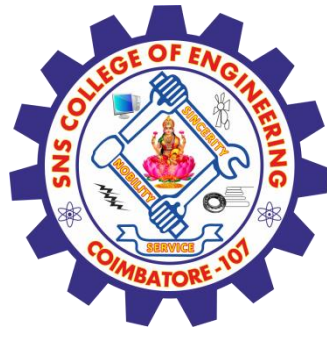
Cybercrime and Computer Crime

- “Criminal activity in which **computers** or computer **networks** are a tool, a target, or a place of **criminal activity**”

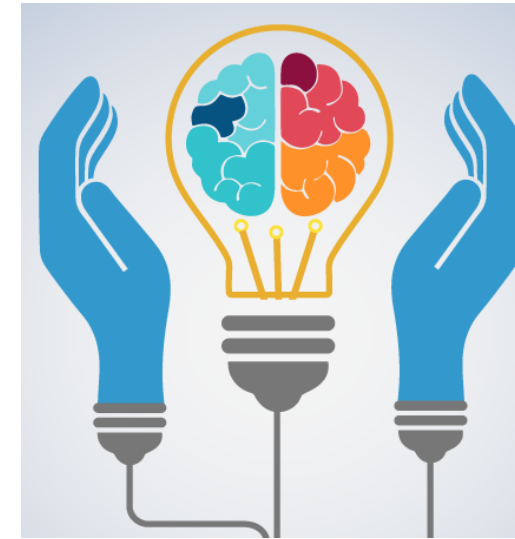
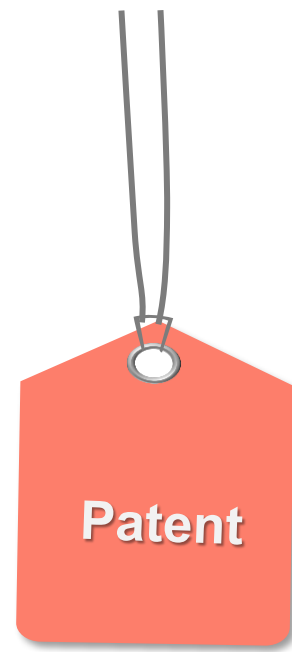
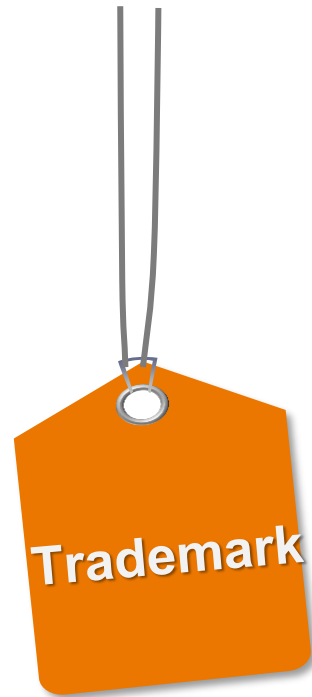


The Vicious Cycle of Cybercrime



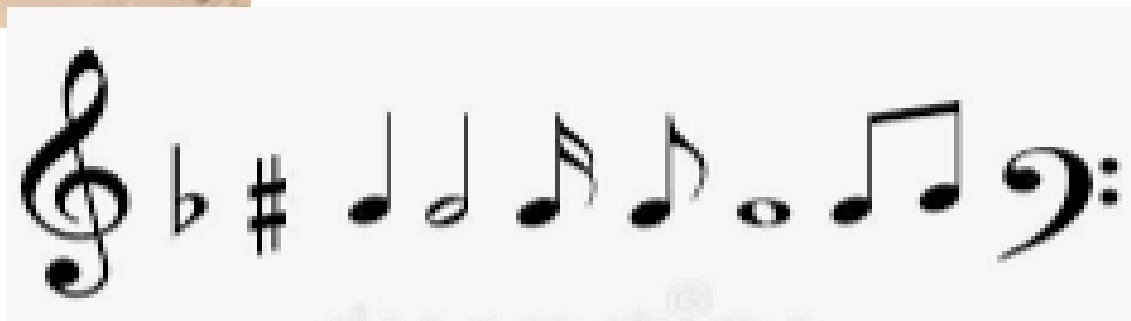


Intellectual Property



Copyrights

- Copyright law protects the tangible or fixed expression of an idea, not the idea itself.



- Literary works
- Musical works, Sound recordings
- Dramatic works
- Pantomimes and choreographic works
- Pictorial, graphic, and sculptural works
- Motion pictures and other audiovisual works
- Architectural works
- Software-related works



Copyrights Law



- Reproduction right
- Modification right
- Distribution right
- Public-performance right
- Public-display right

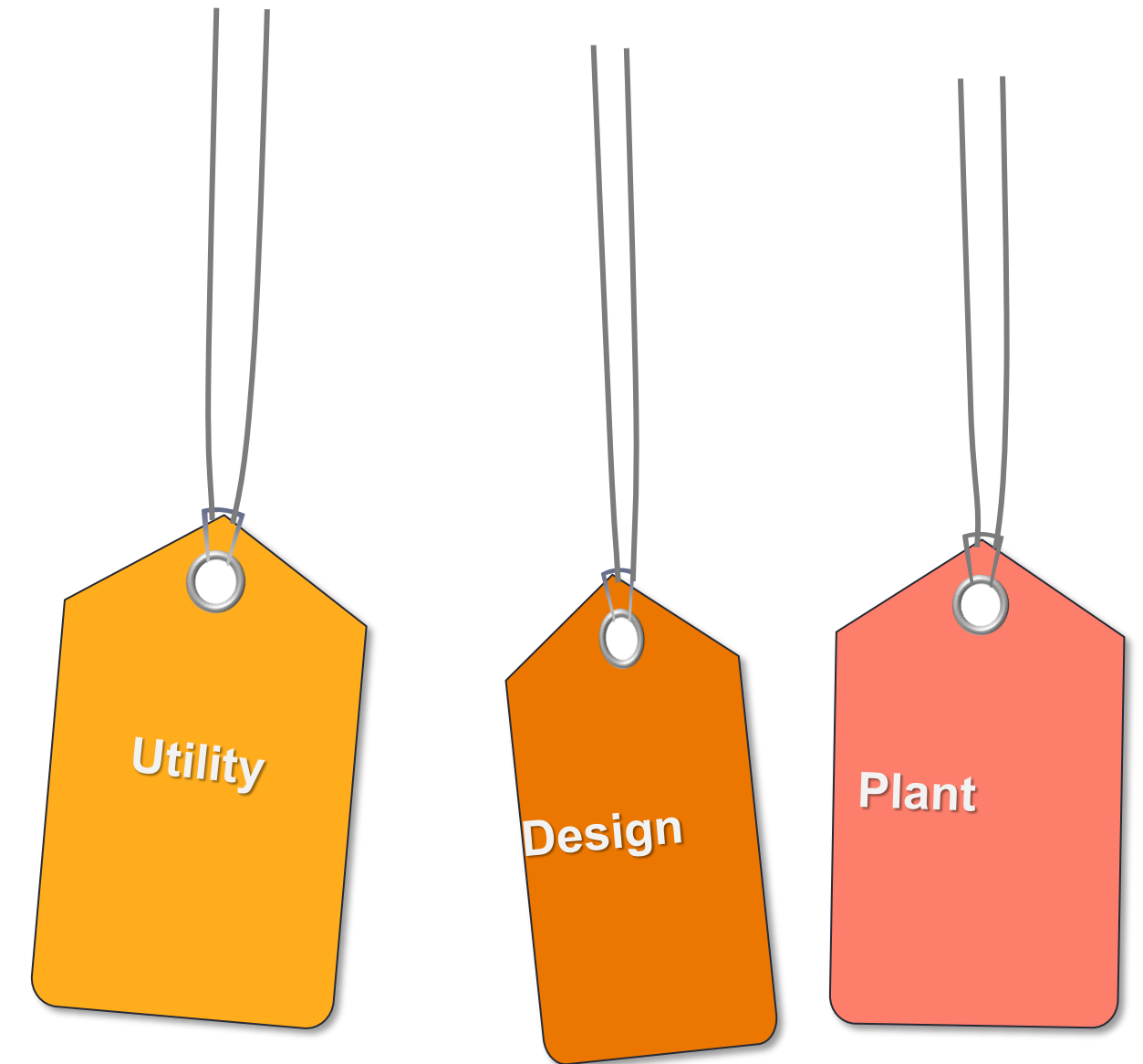




Patent



- Grant a property right to the inventor
 - Utility - any new and useful process, machine, article of manufacture, or composition of matter
 - Design - new, original, and ornamental design for an article of manufacture
 - Plant - discovers and asexually reproduces any distinct and new variety of plant





Trademark



A word, name, symbol, or device

- used in trade with goods
- indicate source of goods
- to distinguish them from goods of others





IP Related to Network & Computer Security

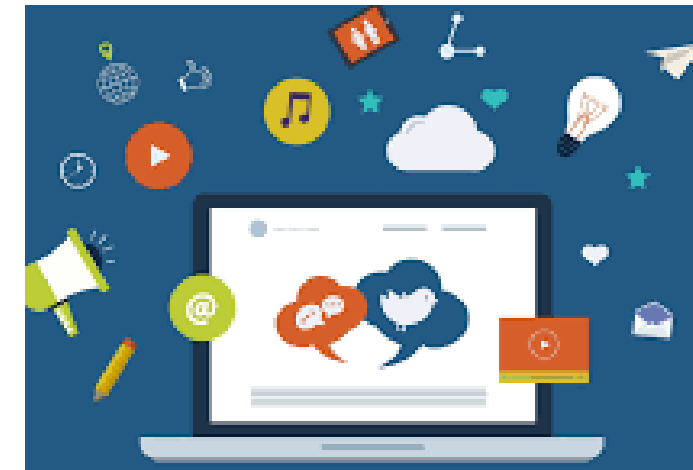


Software



Database

Digital Content



Algorithms

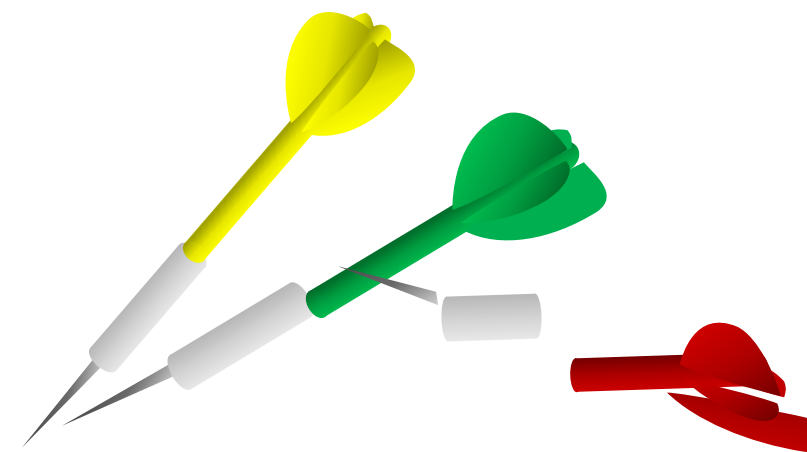
```
def countdown(x):  
    if x == 0:  
        print("!!!")  
        return  
    else:  
        print(x,  
              countdown(x-1))
```



Digital Millennium Copyright Act

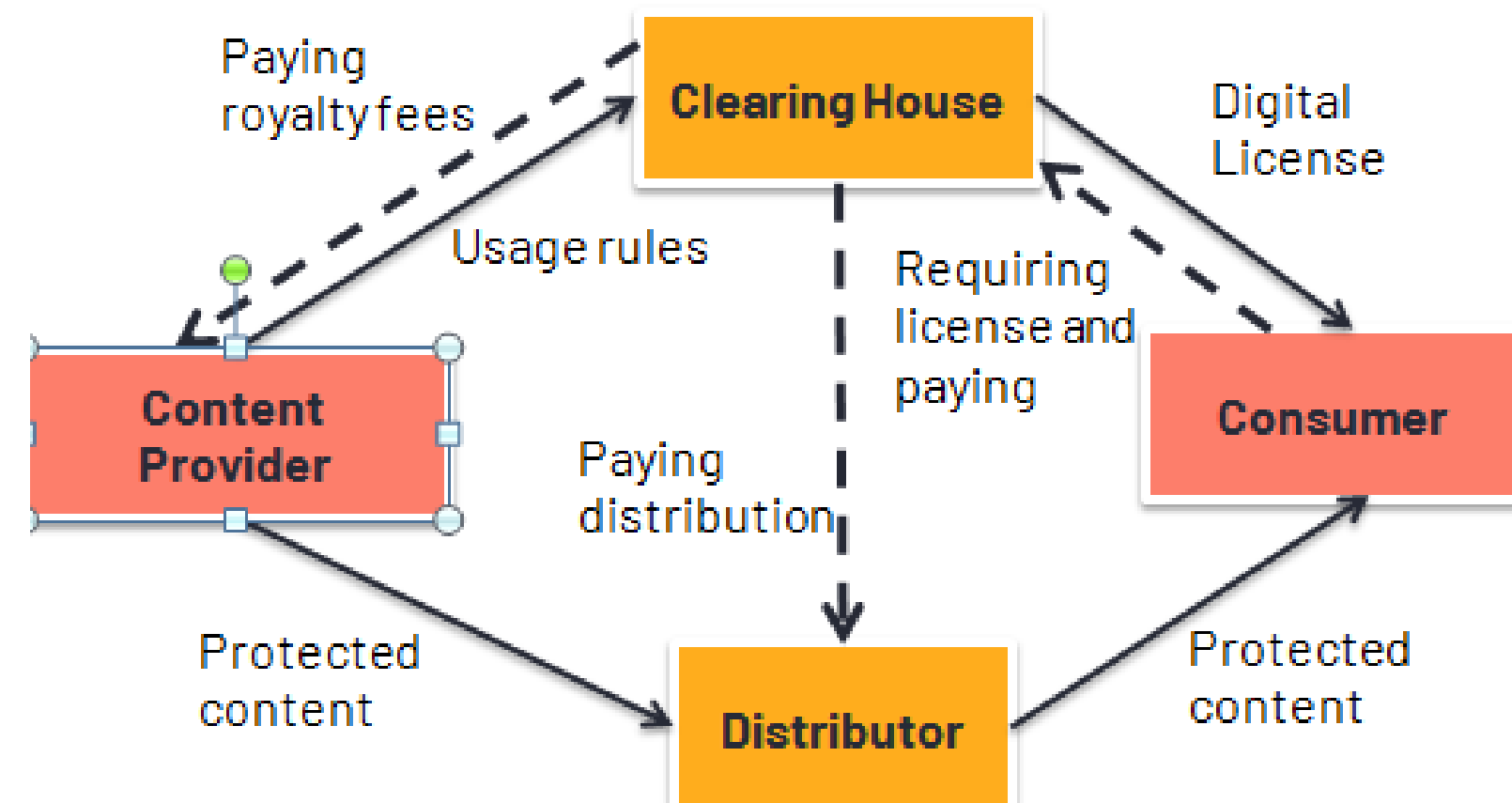


- Encourages copyright owners to use technological measures to protect their copyrighted works
 - measures that prevent access to/ copying of the work
- Penalties for prohibits attempts to bypass the measures



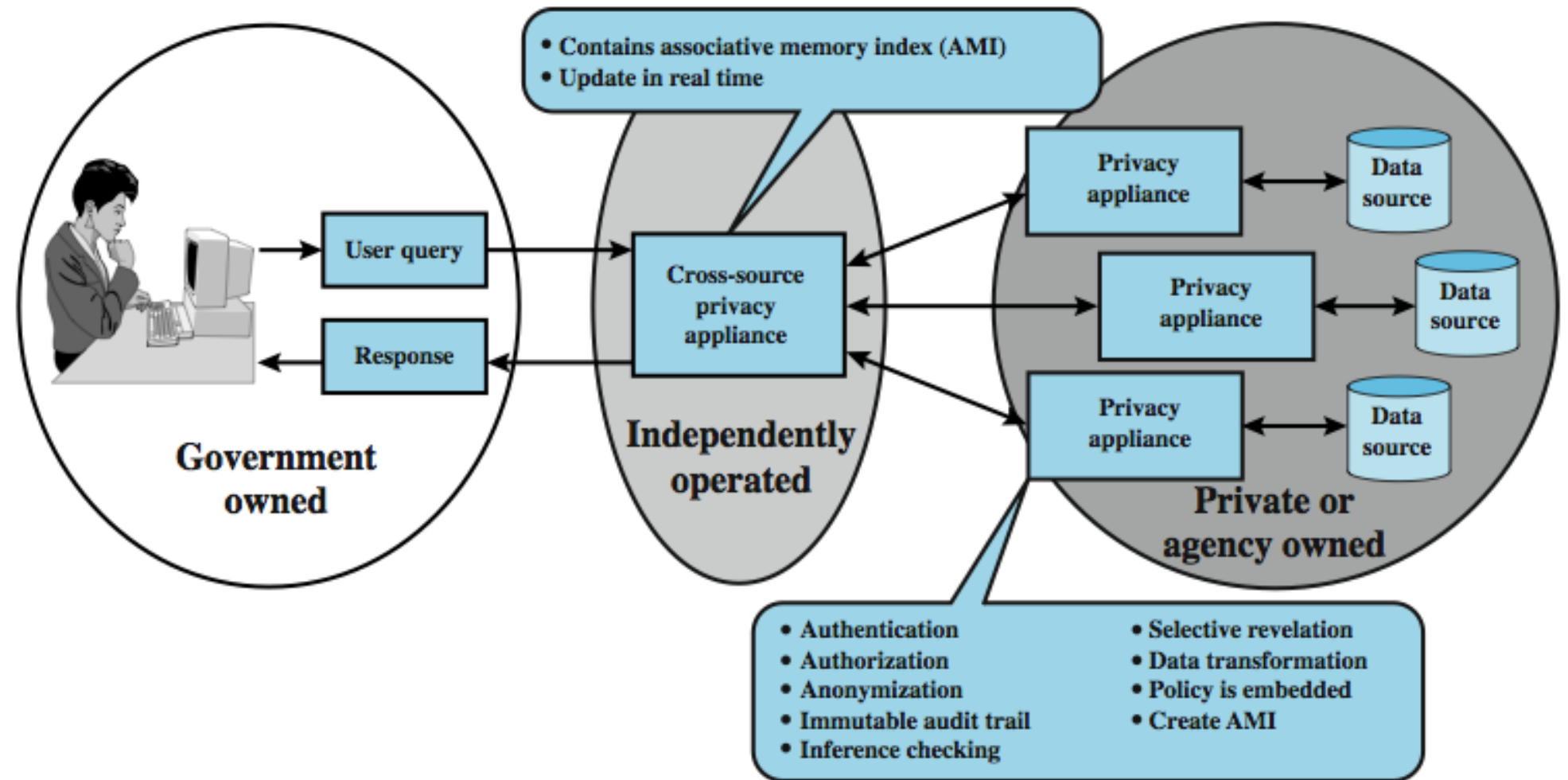
Digital Rights Management (DRM)

- Systems and procedures ensuring digital rights holders are clearly identified and receive stipulated payment for their works



Privacy

- Concerns on extent of privacy compromise have seen a range of responses

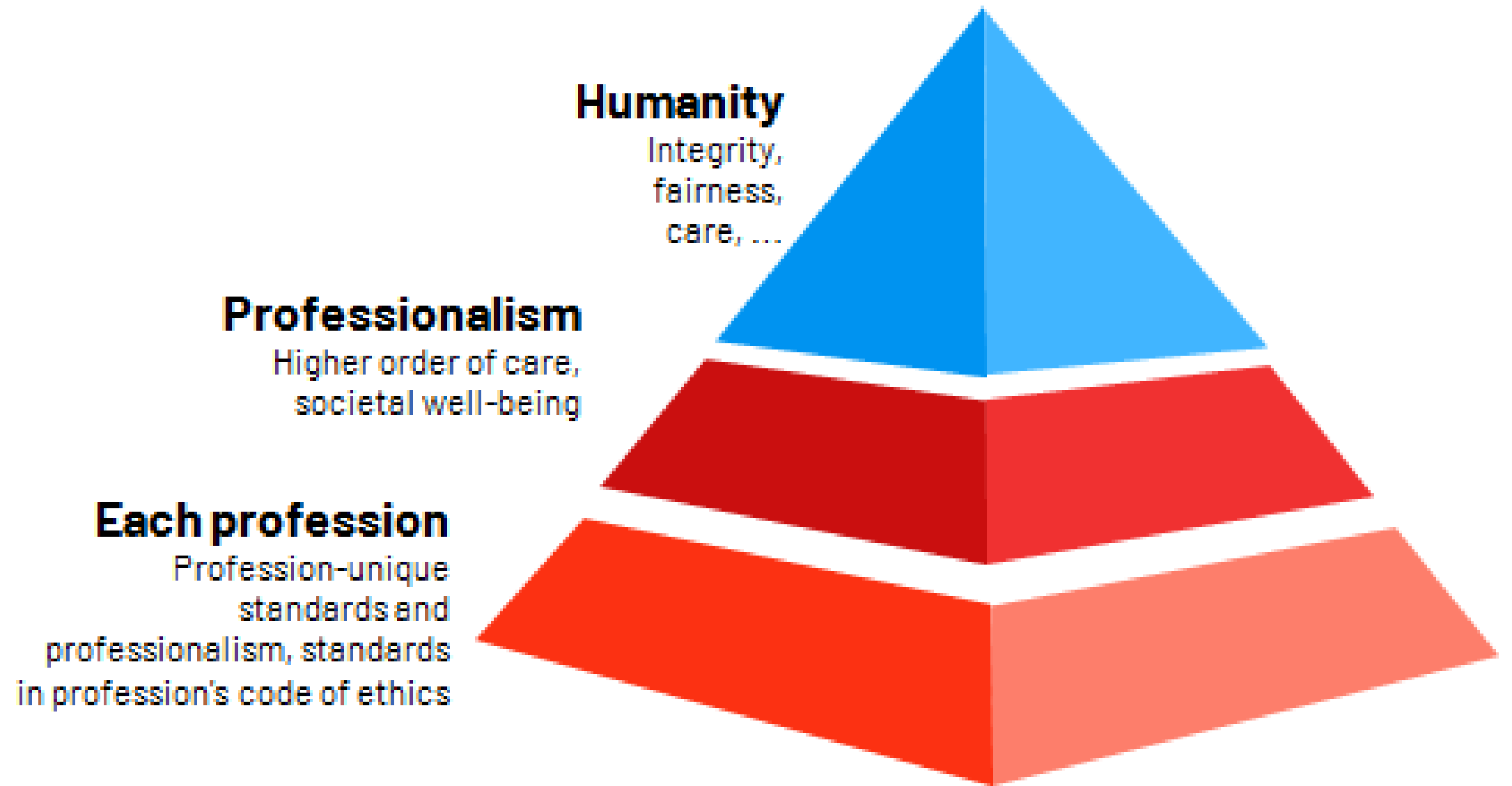




Ethical Aspects



- Have many potential misuses / abuses of information and electronic communication that create privacy and security problems





An Example...

**ACM Code
of ethics**

General Moral Imperatives

- Contribute to society and human well-being.
- Avoid harm to others.
- Be honest and trustworthy.
- Be fair and take action not to discriminate.
- Honor property rights including copyrights and patent.
- Give proper credit for intellectual property.
- Respect the privacy of others.
- Honor confidentiality

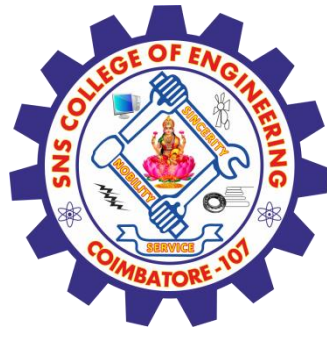
Reflection



Identify the difference between two pictures?

What type of issue is associated with it?

Photograph: Patrick Cariou – 2000; Adaptation: Richard Prince – 2008 (both via [artnet](https://www.artnet.com))



REFERENCES



1. William Stallings, Cryptography and Network Security, 6 th Edition, Pearson Education, March 2013.

THANK YOU